

ABSTRACT

It is intended to provide a novel NAD^+ -independent myo-inositol 2-dehydrogenase which converts myo-inositol into scyllo-inosose in the absence of NAD^+ ; a novel enzyme scyllo-inositol dehydrogenase which stereospecifically reduces scyllo-inosose into scyllo-inositol in the presence of NADH or NADPH; and a novel microorganism which belongs to the genus *Acetobacter* or *Burkholderia* and can convert myo-inositol into scyllo-inositol. By using these enzymes or the microorganism, scyllo-inositol is produced. Furthermore, scyllo-inositol is purified by adding boric acid and a metal salt to a liquid mixture containing scyllo-inositol and a neutral saccharide other than scyllo-inositol to form a scyllo-inositol/boric acid complex, separating the complex from the liquid mixture, dissolving the thus separated complex in an acid to give an acidic solution or an acidic suspension and then purifying scyllo-inositol from the acidic solution or the acidic suspension.